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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,919	03/01/2002	Yutaka Mimino	020129	7136

23850 7590 06/17/2003

ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

FARAHANI, DANA

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,919

Applicant(s)

MIMINO ET AL.

Examiner

Dana Farahani

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable by Huang et al., hereinafter Huang (U.S. Patent 6,162,686), in view of Chang (U.S. Patent 5,427,979).

Regarding claims 1, 2, 3, and 8, Huang discloses in figure 5, a device comprising a plate 20A provided on a semiconductor substrate 10; a plurality of line conductors 72, 62, 44, and 34, provided on the ground plate, forming a multiple layer structure with interlayer insulation films 24, 30, 42, and 66 intervening there-between that is composed of a resin insulating material; a pad 72 provided on most upper one of the interlayer insulation films; and a groove, shown in the middle, provided in the most upper one of the interlayer insulation films and between the pad and the line conductor 72 (on the right side) on the most upper one of the interlayer insulation films.

Huang does not disclose pad 72 is on the upper surface of insulating film 76.

Chang discloses in figure 2, a fuse structure, wherein conductive layer 48 is on top of the insulating layer 44, which serves as a connection to other circuit elements (see column 5, lines 18-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to put another conductive layer on top of the

insulating layer in Huang structure, in order to make a conventional fuse structure, as in Chang reference, in the same structure of Huang's invention, while having an external connection to be connected to other desired circuit elements in an integrated circuit, in which the fuse is to be used.

Regarding claim 4, see Huang, figure 5, wherein the pad is disposed in a peripheral region along an edge of the substrate.

Regarding claims 6 and 7, in figure 1 a through-hole 32A provided, so the pad 72 could be connected to other lower conducting layers.

Regarding claim 5, Huang in view of Chang renders the claimed invention obvious, as discussed above, except for plurality of grooves. It would have been within the level of ordinary skill in the art to form plural grooves on the upper insulator layer in order to make a plurality of plugs.

Regarding claim 10, Huang in view of Chang renders the claimed invention obvious, as discussed above. Also, note that the device in figure 5 of Huang is symmetrical, and if one of ordinary skill in the art would have incorporate the teaching in Chang reference to make an external pad on the most top insulating layer, there would have been two pads, at the right and left of the groove shown in figure 5, on top of the device.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Chang as applied to claim 1 above, and further in view of Moritz (U.S. Patent 4,417,701).

Huang in view of Chang renders the claimed invention obvious, as discussed above, except for the insulating film being made of polyamide or benzocyclobutene.

Moritz disclose at column 2, lines 55-58, that an insulating is made of polyamide. Therefore, it would have been within the level of ordinary skill in the art at the time of the invention to choose the polyamide in the device of Huang, according to the suitability and availability of the material, and because of inherent advantages that a polyamide insulator has.

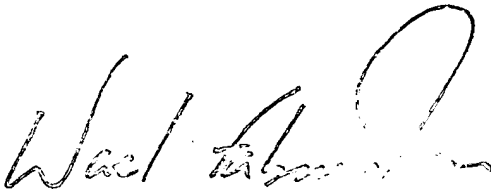
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (703)305-1914. The examiner can normally be reached on M-F 9:00AM - 6:00PM, Est. time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703)308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Dana Farahani
June 10, 2003


SUPERVISORY PRIMARY EXAMINER
TECHNOLOGY CENTER 2000